CLAIMS

1. A multiplexer circuit for switching a selected one of a plurality of current inputs carried by respective input lines to a common output, the circuit comprising, for each input line:

a diode clamp comprising first and second clamp terminals and first and second clamp diodes arranged in series with the same polarity between the clamp terminals; and,

isolation means provided between each input line and the common terminal,

wherein the diode clamp is operable in two modes, a first mode in which voltages are applied to the clamp terminals such that the diodes of the diode clamp are forward biased and hold the input line at a first voltage which prevents the passage of current from the input line to the common output, and a second mode in which the voltages are applied to the clamp terminals such that the diodes of the diode clamp are reverse biased and the passage of the current from the input line to the common output is allowed.

2. A multiplexer circuit as claimed in claim 1, wherein the isolation means comprises an isolation diode.

3. A multiplexer circuit as claimed in claim 2, wherein the first voltage is selected to reverse bias the isolation diode, thereby preventing the passage of current from the respective input line to the common output.

4. A multiplexer circuit as claimed in claim 1, wherein the isolation means comprises a capacitor.

5. A multiplexer circuit as claimed in claim 4, wherein the first voltage is selected depending on the source of the input current, such as to prevent current flowing from the source of the input current.

6. An electronic device comprising an array of charge storage elements which are arranged in rows and columns and which are coupled to row and column conductors, the column conductors being arranged in at least one group, each group having a respective common output, a multiplexer circuit as claimed in claim 1 coupling the column conductors of the respective groups to the respective common output, and a charge measurement device which measures the flow of charge from the common output.

7. An electronic device as claimed in claim 6, wherein the charge storage elements comprise photosensitive pixels including a photodiode and a switching diode.

8. An electronic device as claimed in claim 7, wherein the isolation means comprises an isolation capacitor.

9. An electronic device as claimed in claim 8, wherein during the second mode charge flows from each input to the respective isolation capacitor, and wherein the diode clamp is operable in a third mode in which voltages are applied to the clamp terminals such that the diodes in the diode clamp are forward biased and hold the input line at a second voltage which causes charge stored on the isolating capacitor to flow between the isolating capacitor and the charge measurement device.

10. An electronic device as claimed in any one of claims 7 to 9, wherein the first voltage is selected to reverse bias the switching diode.

11. An electronic device as claimed in claim 6, wherein the charge storage elements comprise capacitive pixels including two diodes and a variable capacitor, the current measurement being used to determine the capacitance.

12. An electronic device as claimed in claim 11, wherein the isolation means comprises an isolation diode.

13. An electronic device according to Claim 11, wherein the pixels comprise capacitive fingerprint sensing elements in which the capacitance of the variable capacitor is determined by a fingerprint portion overlying the pixel.